



# National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

H-547A

Date: April 4, 1990

In reply refer to: H-90-42 through -54

To the Governors of the 50 States,  
the Commonwealth of Puerto Rico,  
the Virgin Islands, and the  
Territories

For many years, the National Transportation Safety Board has documented the major role played by alcohol and other drugs in causing accidents throughout the U.S. transportation system. The Safety Board has recently completed a safety study that focuses on such abuse and other human performance issues in accidents involving heavy trucks. A copy of the report, "Fatigue, Alcohol, Other Drugs, and Medical Factors in Fatal-to-the-Driver Heavy Truck Crashes (Volume 1)," is enclosed. A companion report, Volume 2, contains the case summaries of all of the truck accidents in the study.

The report discusses, in detail, the relevant safety issues and forms the basis for the recommendations issued by the Safety Board.

The National Transportation Safety Board is especially indebted to the National Institute on Drug Abuse, Division of Applied Research, for professional assistance and toxicological test support in conducting this study.

For a 1 year period, October 1, 1987 through September 30, 1988, the Safety Board investigated every accident in eight States in which a driver of a heavy truck was fatally injured. One hundred and eighty two accident investigations involving 186 heavy trucks were conducted in California, Colorado, Georgia, Maryland, New Jersey, North Carolina, Tennessee and Wisconsin.

From NTSB toxicological tests, the Safety Board found that 33 percent of the fatally injured drivers tested positive for alcohol and other drugs of abuse. The most prevalent drugs found were marijuana and alcohol (13 percent each), followed by cocaine (9 percent), methamphetamine/amphetamines (7 percent), other stimulants (8 percent), and codeine and phencyclidine (PCP) (less than 1 percent each). Stimulants are the most frequently identified drug class among fatally injured truck drivers.

Fatigue and fatigue-drug interactions were involved in more fatalities in this study than alcohol and other drugs of abuse alone.

In addition, the study found that for the fatally injured drivers:

- o The most frequently cited accident probable cause was fatigue (57 drivers or 31 percent) followed by alcohol and other drug use impairment (53 drivers or 29 percent);
- o Of the 57 drivers who were fatigued, 19 were also impaired by alcohol and/or other drugs;
- o There is a strong association between violation of the Federal hours of service regulations and drug usage;
- o Drivers with at least one suspended or revoked license are more likely than other fatally injured drivers to have used drugs of abuse;
- o There is a significant relationship between a driver's prior alcohol and/or other drug offenses and a positive test for drugs of abuse in these accidents. This points up the need for thorough background checks and pre-employment drug tests;
- o There is a significant relationship between drug positive test results among professional drivers and a shipment deadline for the load being carried;
- o There is a significant relationship between drug positive test results and the type of trucking service provided, truckload (TL) vs. less-than-truckload (LTL). Nearly 42 percent of fatally injured TL carrier drivers tested positive compared with 14 percent of LTL carrier drivers;
- o There is a significant relationship between drug positive test results and the day of the week. Saturday, Sunday, and Monday are the days with the highest percentages of drug positive tests;
- o While time of day and drug positive tests are not significantly related, 70 percent of the drug positive tests occurred in the following times: 9:00-9:59 am; 1:00-3:59 pm; and 6:00 pm-1:59 am. 1988 FARS data indicates that 48 percent of truck fatal accidents occurred during these times;
- o A disproportionately high percentage of drivers who used drugs are single, separated or divorced;

- o The driver's medical condition caused or contributed to 10 percent of the accidents. Over 90 percent of medical condition related accidents involved some form of cardiac incident. This calls into question the effectiveness of the Federal program to assure the proper medical qualification of commercial vehicle drivers;
- o Older drivers are less likely to have tested positive for drugs, but are more likely to have had an incapacitating medical incident;
- o Occupant protection issues are the most frequently identified non-causal factors involved in a heavy truck fatal accident (68 of 185); and
- o In 115 of the 185 accident involved trucks (62 percent), some management deficiency in oversight of the driver or the proper condition of the vehicle was identified. Deficiencies in oversight of both the driver and the vehicle were identified in 32 of 185 (18 percent) accidents.

The study also reviews: the regulations and legislation governing commercial truck operations; previous relevant research in the field of alcohol and other drug abuse; and the highway accident databases now in existence. The study notes the limitations of those databases as a means with which to assess the scope of the alcohol and other drug abuse problem in heavy truck accidents.

As a result of this safety study, the National Transportation Safety Board recommends that the States, the Commonwealth of Puerto Rico, the Virgin Islands, and the Territories:

Enact legislation or issue regulations to require the collection of blood samples for alcohol and other drug toxicological testing from all vehicle operators involved in fatal commercial truck accidents. (Class II, Priority Action) (H-90-42)

Report alcohol and other drug toxicological tests requested and results obtained in fatal accidents to the Fatal Accident Reporting System operated by the National Highway Traffic Safety Administration. (Class II, Priority Action) (H-90-43)

Require intrastate motor carriers in your State to:

- o perform pre-employment alcohol and other drug tests for all applicants seeking to work as drivers of commercial trucks weighing over 10,000 pounds GVWR; (Class II, Priority Action) (H-90-44)
- o review the alcohol/drug abuse treatment history of all applicants seeking work as commercial truck drivers; (Class II, Priority Action) (H-90-45)

- o obtain proof that applicants seeking work as commercial truck drivers, who have had a history of alcohol/drug abuse, have successfully completed a certified treatment program and obtained a physician's evaluation of substance abuse and dependency; (Class II, Priority Action) (H-90-46)
- o require close supervision, including frequent unannounced drug testing, for an appropriate period, of commercial truck drivers with an identified alcohol or other drug abuse problem. Such testing should be sufficiently frequent to create the likelihood of detection if the person uses drugs of abuse. (Class II, Priority Action) (H-90-47)
- o require automated/tamper-proof on-board recording devices such as tachographs or computerized logs to identify commercial truck drivers who exceed hours of service regulations. (Class II, Priority Action) (H-90-48)

Disseminate safety information to commercial truck drivers in your State regarding the effects of fatigue, alcohol and other drug use, and the interaction of drugs and fatigue. (Class II, Priority Action) (H-90-49)

Provide drug recognition expert training to personnel in State and local police agencies and in other public safety/law enforcement agencies who have commercial truck and truck driver enforcement and oversight responsibilities. (Class II, Priority Action) (H-90-50)

Develop a coordinated statewide program to conduct selective alcohol and other drug enforcement operations at times and locations of high levels of truck accidents -- specifically at times of high incidence of commercial truck accidents involving alcohol and/or other drugs. (Class II, Priority Action) (H-90-51)

Adopt revised Federal regulations or establish State regulations requiring medical certification of commercial truck drivers and for more extensive and frequent, state of the art cardiac screening tests and examinations of older commercial truck drivers (age 40 and older) and for commercial drivers with cardiac conditions. (Class II, Priority Action) (H-90-52)

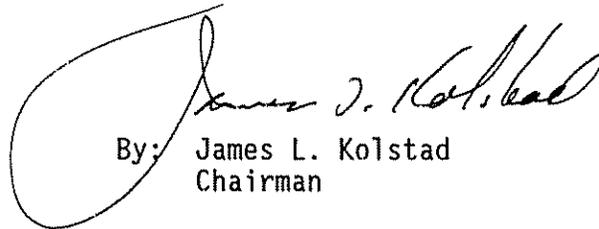
Enact legislation or adopt regulations, as appropriate, to define the alcohol concentration level that constitutes driving a commercial motor vehicle "under the influence" at

the lowest possible level consistent with the capability of testing equipment to measure any ingested alcohol. (Class II, Priority Action) (H-90-53)

Enact legislation to establish 0.01 percent (the practical scientific level which allows for instrument sensitivity and individual differences) as the per se offense blood alcohol concentration for operators of commercial vehicles in your State. (Class II, Priority Action) (H-90-54)

Also, as a result of this safety study, recommendations have been issued to the U.S. Department of Transportation, the National Highway Traffic Safety Administration, the Federal Highway Administration, the Department of Health and Human Services, Governors of the States, the National Governors' Association, trucking industry trade associations, the International Brotherhood of Teamsters, law enforcement associations, the National Home Study Council, the National Association of Trade and Technical Schools, and the Professional Truck Driver Institute of America.

KOLSTAD, Chairman, BURNETT, LAUBER, and DICKINSON, Members, concurred in these recommendations.

  
By: James L. Kolstad  
Chairman

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